

~~DZYADCHIK, V.~~  
USSR/ Electronics - Testing instruments

Card 1/1 Pub. 89 - 12/27

Authors : Dzyadchik, V.; Dontsov, A.; and Tsuytlih, M.

Title : Crystal triodes in defect searching instruments

Periodical : Radio 8, 23-24, Aug 1955

Abstract : A new crystal triode device for the detection of defects in underground communication lines is described. The individual elements of the searching instrument and the mode of its operation are described. Diagrams.

Institution : .....

Submitted : .....

107-57-1-27/60

AUTHOR: Shanurenko, V. and Dzyadchik, V.

TITLE: Signal System for First-Class Lines. Wire-Broadcast Development  
(Signaliziruyushcheye ustroystvo dlya liniy pervogo klassa. Radiofikatsiya)

PERIODICAL: Radio, 1957, Nr 1, p 18 (USSR)

ABSTRACT: A simple system is suggested for signaling faults on wire-broadcast distribution lines working at voltages under 360 v. A two-wire ground-return loop is formed, tuned in resonance for 50 cps and fed from the power-supply line. A neon lamp connected across an inductance is normally lit, and goes out in case of a failure on the line. Circuit diagrams and parts data are supplied.

There are 3 figures in the article.

AVAILABLE: Library of Congress

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*DZYADCHIK, V.*  
DZYADCHIK, V.

Pocket Z-meter and ground resistance meter. Radio no.10:32-33  
0 '57. (MIRA 10:10)

(Electric meters)

DZYADETSKA, R. V., Cand Biol Sci — (diss) "The Influence of Ultraviolet Radiation on the Stature and Physiological Condition of the Offspring of Cattle From One Month to a Year." Moscow, 1960, 24 pp (Moscow Order of Lenin Agricultural Institute im Timiryazyev) 120 copies, no price given (KL, 21-60, 121)

GORBUNOV, N.I.; DZYADEVICH, G.S.; TUNIK, B.M.

Determining nonsilicate amorphous and crystalline sesquioxides in  
soils and clays. Pochvovedenie no.11:103-111 N '61. (MIRA 14:12)

1. Pochvennyy institut imeni V.V.Dokuchayeva.  
(Soils--Analysis) (Clay--Analysis)

DZYADEVICH, I.A., inzh. (Moskva)

Create an effective economic basis for large-scale irrigation  
in the steppe zone. Gidr. i mel. 16 no.4:49-55 Ap '64.  
(MIRA 17:6)

DZYADEVICH, I.A., inzh.

Conference on the use of plastic materials in drainage and the  
operation of melioration systems. Gidr. i mel. 16 no.7:62-64  
Jl '64. (MIRA 17:11)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni  
V.I. Lenina.

BERDYSHEV, V.D., inzh. (Moskva); DZYADEVICH, I.A. inzh. (Moskva)

Session of the All-Union Academy of Agricultural Sciences on  
irrigation farming in the European part of the U.S.S.R. Gidr.  
i mel. 17 no.1,52-60 Ja '65. (MIRA 18:4)



DZYADEVICH, I.A., inzh. (Moskva).

Simplest device for starting irrigation siphons. Gidr. 1  
mel. 17 no.8:48-50 Ag '65. (MIRA 18:10)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000411920017-6

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000411920017-6"

PA 244794

USSR/Mathematics - Approximation

Mar/Apr 53

"Best Approximation in a Class of Periodic Functions That Possess a Bounded s-th Derivative (Fractional)," V. K. Dzjaduk

"Iz Ak Nauk SSSR, Ser Matemat" Vol 17, No 2, pp 135-162

Investigates the evaluation for the approximation (uniform also in the mean) of a class of periodic functions that possess a fractional s-th derivative ( $0 < s < 1$ ). In particular, finds the best approximation in the mean, with the aid of

244794

trigonometric polynomials, of given order of the function  $P_s(t) = \sum_{k=1}^{\infty} k^{-s} \cos(kt - \frac{1}{2}s\pi)$  for  $0 < s < 1$ .

Presented by Acad S. N. Bernshbeyn 26 June 52.

244794

DZYADYK, V. K.

"On the Best Approximation in the Mean of Differentiable  
Periodic Functions." Cand Phys-Math Sci, Dnepropetrovsk State  
U, Dnepropetrovsk, 1954. (RZhMat, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical  
Dissertations Defended at USSR Higher Educational Institutions (15)

Dzyadyk, V. K.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress \* (Cont.) Moscow  
Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.  
Gladkiy, A. V. (Barnaul). On the Effectively Unbounded  
Additive Set Functions. 79

Danilyuk, I. I. (L'vov). Quasi-analytic Functions of  
Many Variables on Manifolds. 79-80

Dzhrbashyan, M. M. (Yerevan). On the Weighted Polynomial  
Approximations in Complex Regions. 80

Dzyadyk, V. K. (Lutsk). Precise Evaluation of the Best  
Approximations for a Class of Periodical Functions. 80-82

There are 2 references, both of them USSR.

Dzyadyk, V. K. (Lutsk). On Approximations by Polynomials  
of Non-periodical Functions Satisfying the Condition  
 $\text{Lip } \alpha$  ( $0 < \alpha < 1$ ). 82-83

Mention is made of Bernshteyn, S. N., Nikol'skiy, S. M.  
and Tlman, A. F.

Card 25/80

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"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000411920017-6

David L. R. Constructive Characterization of the  
- some catching the wind -

1 5 11

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000411920017-6"

**"APPROVED FOR RELEASE: 03/13/2001**

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**APPROVED FOR RELEASE: 03/13/2001**

**CIA-RDP86-00513R000411920017-6"**

~~DZJADYK, V.K.~~ DZJADYK, V.K.  
 SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/1 PG - 648  
 AUTHOR DZJADYK V.K.  
 TITLE On the continuation of functions which satisfy the Lipschitz condition in the metric of the  $L_p$ .  
 PERIODICAL Mat.Sbornik, n.Ser. 40, 239-242 (1956)  
 reviewed 3/1957

Let the function  $f(x)$  be defined on  $(a, b)$  and satisfy the conditions

$$1) f(x) \in L_p(a, b)$$

$$2) \omega_p(\delta; f; a, b) = \sup_{0 \leq h \leq \delta} \left( \int |f(x+h) - f(x)|^p dx \right)^{1/p} \leq M \delta^\alpha,$$

where  $p \geq 1$  and  $M$  is constant. Then there exists a summable function  $F(x)$  which satisfies the following conditions:

- 1)  $F(x)$  is defined on the whole number line;
- 2)  $F(x) = f(x)$  for  $x \in (a, b)$ ;
- 3)  $F(x) \in L_p(-\infty, +\infty)$ ;

$$4) \omega_p(\delta; F; -\infty, +\infty) \leq M_1 \delta^\alpha, \text{ where } M_1 \text{ is a new constant.}$$

INSTITUTION: Luzk.



AUTHOR: Dzyadyk, V.K.

SOV/38-22-3-2/9

TITLE: On the Approximation of Functions by Simple Polynomials on a Finite Interval of the Real Axis (O priblizhenii funktsiy obyknovennymi mnogochlenami na konechnom otrezke veshchestvennoy osi)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1958, Vol 22, Nr 3, pp 337-354 (USSR)

ABSTRACT: The author starts from the statement that under suitable choice of the kernels  $D_n(t)$  the functions

$$F_n(x) = \int_a^b f(t) D_n(t-x) dt \text{ approximates well each continuous}$$

function  $f(x)$  in the metric of the  $C$ . The author chooses the kernels

$$D_{nk}(x) = \frac{1}{\gamma_{nk}} \left( \frac{\sin \frac{1}{2} n \arccos \left(1 - \frac{x^2}{2}\right)}{\sin \frac{1}{2} \arccos \left(1 - \frac{x^2}{2}\right)} \right)^{2k}, \quad x \in [-\sqrt{2}, \sqrt{2}] .$$

proves several properties of these kernels, and with their aid

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On the Approximation of Functions by Simple Polynomials SOV/38-22-3-2/9  
on a Finite Interval of the Real Axis

he constructs approximating polynomial sequences for a continuous function defined on  $[a, b]$ . This renders possible to obtain the following results with the methods of Nikol'skiy [Ref 7] and Timan [Ref 8, 9]: 1. A constructive characterization of the quasi-smooth and smooth functions. Fundamental theorem: In order that a function  $f(x)$  defined on  $[a, b]$  possesses a quasi-smooth derivative

$f^{(r)}(x)$ , it is necessary and sufficient that for every  $n$  there exists a polynomial  $P_n(x)$  so that

$$|f(x) - P_n(x)| < \frac{C}{n^{r+1}} \left[ \sqrt{(x-a)(b-x)} + \frac{1}{n} \right]^{r+1}$$

holds for all  $x \in [a, b]$ , where  $C$  does not depend on  $n$  and  $x$ .

2. A simple proof for a generalization of the theorem of Timan [Ref 9]: If  $f^{(r)}(x)$  is continuous, then for every  $n$  there exists a  $P_n(x)$ , so that

$$|f(x) - P_n(x)| \leq \frac{C}{n^r} \left( \sqrt{(b-x)(x-a)} + \frac{1}{n} \right)^r \left[ \omega_2^{(r)} \left( \frac{\sqrt{(b-x)(x-a)}}{n} \right) + \omega_2^{(r)} \left( \frac{1}{n^2} \right) \right]$$

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where

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on a Finite Interval of the Real Axis

$$\omega_2^{(r)}(h) = \sup_{|x_2 - x_1| \leq h} \left| f^{(r)}(x_1) - 2f^{(r)}\left(\frac{x_1 + x_2}{2}\right) + f^{(r)}(x_2) \right|$$

3. A particularly simple proof of the theorem of Weierstraß on the existence of an arbitrarily well approximating polynomial. There are 11 references, 10 of which are Soviet, and 1 French.

PRESENTED: by M.A. Lavrent'yev, Academician

SUBMITTED: January 18, 1957

1. Functions--Theory    2. Approximate computation    3. Polynomials

Card 3/3

AUTHOR: Dzyadyk, V.K. (Lutsk)

SOV/20-121-3-2/47

TITLE: ~~Further Strengthening~~ of the Theorem of Jackson on the Approximation of Continuous Functions by Ordinary Polynomials  
(Dal'neysheye usileniye teoremy Dzheksona o priblizhenii obychovennymi mnogochlenami nepreryvnykh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 3, pp 403-406 (USSR)

ABSTRACT: The author proves the following theorem :  
Let  $f(x)$  be defined on  $[a, b]$  and let there possess a continuous  $r$ -th derivative  $f^{(r)}(x)$ ,  $r \geq 0$  ; let  
 $\omega_2^{(r)}(\delta)$  be the smoothness modulus of  $f^{(r)}(x)$  :

$$\omega_2^{(r)}(\delta) = \sup_{|x' - x''| \leq \delta} \left| f^{(r)}(x') - 2f^{(r)}\left(\frac{x' + x''}{2}\right) + f^{(r)}(x'') \right|$$

where  $x', x'' \in [a, b]$ . Then there exists for each  $n = 1, 2, \dots$  an ordinary polynomial  $P_n(x)$  of at most  $n$ -th degree, so that for each  $x \in [a, b]$  it holds :

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Further Strengthening of the Theorem of Jackson on the SOV/20-121-3-2/47  
Approximation of Continuous Functions by Ordinary Polynomials

$$|f(x) - P_n(x)| \leq \frac{C}{n^r} \left( \sqrt{(b-x)(x-a)} + \frac{1}{n} \right)^r \left[ \omega_2^{(r)} \left( \frac{\sqrt{(b-x)(x-a)}}{n} \right) + \omega_2^{(r)} \left( \frac{1}{n^2} \right) \right]$$

Here the constant C does not depend on n .  
For the proof the author uses the method due to himself  
[Ref 5] for the approximation of the quasi-smooth functions  
(i.e. of such functions for which it is  $\omega_2(\delta, f) = O(\delta)$ ). The  
author generalizes the former results of Jackson, Nikol'skiy  
[Ref 1] , Timan [Ref 2,3] .

There are 6 references, 5 of which are Soviet, and 1 French.  
ASSOCIATION: Lutskiy gosudarstvennyy pedagogicheskiy institut imeni Lesi  
Ukrainki (Lutsk State Pedagogical Institute imeni Lesya  
Ukrainka)

PRESENTED: March 18, 1958, by M.A.Lavrent'yev, Academician

SUBMITTED: February 15, 1958

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~~46(1)~~ 16.3000

05701  
SOV/38-23-5-5/8

AUTHOR: Dzyadyk, V.K.

TITLE: On the Problem of S.M. Nikol'skiy in the Complex Domain

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959,  
Vol 23, Nr 5, pp 697 - 736 (USSR)

ABSTRACT: Let  $\mathcal{K}$  be a bounded closed set with simply connected complement  $G$ , the boundary  $C_1$  of which consists of finitely many Jordan arcs. Let  $\varphi(z)$  map conformally the exterior of  $\mathcal{K}$  on to the exterior of the unit circle, where  $\lim_{z \rightarrow \infty} \frac{\varphi(z)}{z}$  is assumed to exist, to be positive and finite. Let  $\varphi^{-1}(w)$  be the inverse function of  $\varphi(z)$ . Let  $C_R$  ( $R \geq 1$ ) denote the equipotential line  $|\varphi(z)| = R$  and for  $z \in C_1$  and  $\tilde{z} \in C_R$  let

$$(2.1) \quad g_R(z) = \min_{z^1 \in C_R} |z^1 - z|, \quad \bar{g}_R(\tilde{z}) = \min_{z^1 \in C_1} |z^1 - \tilde{z}|$$

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On the Problem of S.M. Nikol'skiy in the Complex Domain

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$\mathcal{M}$  is said to have the property  $(A^*)$ , if there exists a number  $\bar{R} = \bar{R}(\mathcal{M}) > 1$  so that

1.) every  $C_R$  ( $1 \leq R \leq \bar{R}$ ) can be decomposed into  $N < \infty$  arcs

$C_R^{(1)}, C_R^{(2)}, \dots, C_R^{(N)}$ , where it holds:

$$(2.2) \quad s(z_1, z_2) = \int_{z_1}^{z_2} |dz| \leq A_4 |z_2 - z_1|, \quad z, z_1, z_2 \in C_R^{(i)},$$

$i = 1, 2, \dots, N$

where it is  $A_4 = A_4(\mathcal{M}) = \text{const.}$

2.) For all  $z \in C_1$ ,  $\tilde{z} \in C_R$ ,  $1 < R < R_1 \leq \bar{R}$  it holds

$$(2.3) \quad \text{a.) } |\varphi^{-}[R\varphi(z)] - z| \leq A_5 \vartheta_R(z),$$

$$\text{b.) } \left| \tilde{z} - \varphi^{-}\left[\frac{1}{R}\varphi(\tilde{z})\right] \right| \leq A_5 \bar{\vartheta}_R(\tilde{z}),$$

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On the Problem of S.M. Nikol'skiy in the Complex Domain

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$$o.) \ A_5' \ \varphi_{R_1}(z) \leq |\varphi^{-1} [R_1 \varphi(\tilde{z})] - \tilde{z}| \leq A_5 \ \varphi_{R_1}(z) ,$$

$$z = \varphi^{-1} \left[ \frac{\varphi(\tilde{z})}{R} \right]$$

where  $A_5 = A_5(\mathcal{M})$  ,  $A_5' = A_5'(\mathcal{M})$  are constants. A set with the property  $(A^*)$  is called as a set of the type  $(A^{**})$  if it satisfies the following additional conditions :

3.) on every arc  $z_1 z_2$  of  $C_1$  there exists at least one point  $z^*$  so that for all  $z \in z_1 z_2$  and  $1 < R \leq \bar{R}$  it holds

$$(2.4) \ \varphi_R(z) \leq A_6 \ \varphi_R(z^*) , \ A_6 = A_6(C_1) = \text{const} .$$

4.) let  $z_0 \in C_1^{(1)}$  ( $i = 1, 2, \dots, N$ ) ,  $1 < R \leq \bar{R}$  ,  $L \geq 1$  ( $L = \text{const}$ ),

$|z - z_0| \leq L \ \varphi_R(z_0)$  ,  $z \in C_1^{(1)}$  ; then it is

$$(2.5) \ A_7' \ \varphi_R(z_0) < \varphi_R(z) < A_7 \ \varphi_R(z_0) ;$$

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On the Problem of S.M. Nikol'skiy in the Complex  
Domain

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SOV/38-23-5-5/8

the constants  $A_7$ ,  $A_7^1$  only depend on  $C_1$  and  $L$ .

Theorem 4.1 : Let a function  $f(z)$  be given on the set  $\mathcal{M}$  of the type  $(A^{+x})$ . Let a polynomial  $P_n(z)$  of at most  $n$ -th degree exist for every integer  $n \geq n_0$  so that

$$(4.1) \quad |f(z) - P_n(z)| \leq A_{48} \left[ \varrho_{1+\frac{1}{n}}(z) \right]^{r+\alpha}$$

holds for all  $z \in C_1$ , where  $r$  is integer  $\geq 0$ ,  $0 < \alpha < 1$  and  $A_{48}$  is the same constant for  $n = n_0, n_0 + 1, n_0 + 2, \dots$ .

Then  $f(z)$  is everywhere analytic in the interior of  $\mathcal{M}$ , continuous on  $\mathcal{M}$  and possesses in all points  $z \in \mathcal{M}$  an  $r$ -th derivative  $f^{(r)}(z)$  belonging to the class  $\text{Lip } \alpha$ .

The author mentions S.N. Bernshteyn, S.M. Nikol'skiy, A.F. Timan, M.K. Potapov, G.K. Lebed', Yu.A. Brudnyy, and S.N. Mergelyan.

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On the Problem of S.M. Nikol'skiy in the Complex  
Domain

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SOV/38-23-5-5/8

There are 3 figures, and 25 references, 16 of which are  
Soviet, 4 German, 3 American, 1 English, and 1 Polish.

PRESENTED: by S.L. Sobolev, Academician

SUBMITTED: October 26, 1957

Card 5/5

~~46(1)~~ 16.4100 16.4200

AUTHOR: Dzyadyk, V.K.

SOV/38-23-6-9/11

TITLE: On Best Approximation on the Classes of Periodic Functions Defined by Kernels Which are Integrals of Absolutely Monotone Functions

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959, Vol 23, Nr 6, pp 933 - 950 (USSR)

ABSTRACT: The author considers the functions

$$(1.2) \quad f(t) = \frac{1}{\pi} \int_0^{2\pi} K(\xi) \varphi(t - \xi) d\xi,$$

where  $K(\xi)$  is a function summable on  $[0, 2\pi]$  and absolutely monotone on  $(-\infty, 2\pi)$  or a periodic integral of such a function. Let  $E_n(f)_C$  and  $E_n(f)_L$  be the best approximations of  $f(x)$  by trigonometric polynomials  $T_{n-1}(t)$ . The author gives rigorous values for  $\sup_f E_n(f)_C$  and  $\sup_f E_n(f)_L$ , if classes of functions runs through certain  $f$  corresponding to the nature of  $\varphi$ . The calculation of the mentioned values is

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On Best Approximation on the Classes of Periodic Functions Defined by Kernels Which are Integrals of Absolutely Monotone Functions SOV/38-23-6-9/11

essentially based on the following theorem : If  $K(t)$  is absolutely monotone on  $(-\infty, 0)$  (or  $(-\infty, 0]$ ) and  $a < -2\pi$  (or  $a \leq -2\pi$ ), then the trigonometric polynomial  $T_n(t)$  interpolates the function  $K(t)$  on  $(a, a + 2\pi]$  in at most  $2n + 1$  points.

The author especially determines the exact upper bound of the best approximations in the classes of the periodic functions with bounded  $s$ -th ( $s > 0$ ) derivative, whereby the problem posed by Favard [Ref 25] is completely solved. Altogether the author gives 13 theorems and several lemmata.

He mentions N.I. Akhiezer, M.G. Kreyn, S.M. Nikol'skiy, S.B. Stechkin, S.N. Bernshteyn and A.A. Markov.

There are 25 references, 19 of which are Soviet, 2 French, 1 Danish, 1 American, 1 Polish, and 1 German.

PRESENTED: by S.L. Sobolev, Academician  
SUBMITTED: December 8, 1958

Card 2/2

16(1)

AUTHOR:

Dzyadyk, V.K.

SOV/ 20-127-3-6/71

TITLE:

Inverse Theorems on the Approximation of Functions in Regions With Angular Singularities

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 3, pp 505-508 (USSR)

ABSTRACT:

Let  $M$  be a bounded closed set with simply connected complement  $G$ , the boundary of which consists of finitely many Jordan curves. Let the function  $\varphi(z)$  map conformally the exterior of  $M$  onto the exterior of the unit circle so that

$\lim_{z \rightarrow \infty} \frac{\varphi(z)}{z}$  is finite positive. Let  $C_R (R \geq 1)$  denote the equi-

potential line  $|\varphi(z)| = R$  and  $\varrho_R(z) = \min_{z' \in C_R} |z' - z|$ .

For sets of the type  $A^*$  characterized by four longer conditions there holds the fundamental theorem:

Theorem: Let on  $M$  of the type  $A^*$  a function  $f(z)$  be defined. Let a polynomial of at most  $n$ -th degree  $P_n(z)$  exist to

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Inverse Theorems on the Approximation of Functions  
in Regions With Angular Singularities

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every  $n$  so that for all  $z \in C_1$  it holds

$$|f(z) - P_n(z)| \leq A \left[ \varphi_{1+1/n}(z) \right]^{r+\alpha}, \text{ where } r \text{ is positive in-}$$

teger,  $0 < \alpha < 1$ ,  $A$  a constant equal for  $n = 1, 2, \dots$ .

Then  $f(z)$  is analytic in all interior points of  $\mathcal{M}$ , continuous on  $\mathcal{M}$  and possesses an  $r$ -th derivative in all points  $z \in \mathcal{M}$  which belongs to the class  $\text{Lip}\alpha$  on  $\mathcal{M}$ .

Four further similar theorems are given. The author mentions S.N. Bernshteyn, S.M. Nikol'skiy, A.P. Timan, G.K. Lebed'. There are 14 references, 12 of which are Soviet, 1 German, and 1 American.

ASSOCIATION: Lutskiy gosudarstvennyy pedagogicheskiy institut imeni Iesi  
Ukrainki (Lutsk State Pedagogical Institute imeni Iesya  
PRESENTED: April 10, 1959, by M.A. Lavrent'yev, Academician Ukrainka)  
SUBMITTED: March 30, 1959

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66460

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16(1), 16(2) 16.4100 16.4200

AUTHOR: Dzyadyk, V.K.

SOV/20-129-1-4/64

TITLE: On the Best Trigonometric Approximation in the L Metric of Some Functions

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 1, pp 19-22 (USSR)

ABSTRACT: The author formulates without proof six long theorems on trigonometric approximations in the L metric, e.g.:  
Theorem 1: Let

$$(1) \quad \varphi(t) = \sum_{j=0}^{\infty} a_j t^j, \quad t \in [0, 2\pi)$$

be a function summable on  $[0, 2\pi]$ ; let  $a_j$  be arbitrary non-negative numbers, let the radius of convergence be  $\geq 2\pi$ . Let  $T_n^*(t)$  be the polynomial of at most n-th degree interpolating the function in the points  $\frac{k\pi}{n+1}$ ,  $k=1, 2, \dots, n+1$ . Then among all trigonometric polynomials of at most n-th degree  $T_n^*$  is that one which approximates the function best (in the L metric) and it holds

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On the Best Trigonometric Approximation in the  
L Metric of Some Functions

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$$\begin{aligned}
 (2) \quad E_n(\varphi)_L &= \inf_{T_n} \int_0^{2\pi} |\varphi(t) - T_n(t)| dt = \int_0^{2\pi} |\varphi(t) - T_n^*(t)| dt = \\
 &= - \int_0^{2\pi} \varphi(t) \operatorname{sign} \sin(n+1)t dt = \\
 &= \sum_{j=1}^{\infty} \frac{a_j}{j+1} \left(\frac{\pi}{n+1}\right)^{j+1} \left[ (2n+2)^{j+1} - 2 \sum_{k=1}^{2n+1} (-1)^{k-1} k^{j+1} \right].
 \end{aligned}$$

Theorem 2: Let  $K(t)$  have an absolutely monotone derivative  $K'(t)$  on  $(-\infty, 2\pi)$  or  $(-\infty, 2\pi]$ . Then

$$(3) \quad K(t) - T_n(t) = 0$$

has not more than  $2n+1$  roots on  $[0, 2\pi)$  or  $(0, 2\pi]$ ,  $n=1, 2, \dots$ ;  
 $T_n(t)$  is a trigonometric polynomial of at most  $n$ -th degree.

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On the Best Trigonometric Approximation in the  
L Metric of Some Functions

S07/20-129-1-4, 64

With the aid of the formulated theorems a problem can be solved  
which was formulated in 1937 by Favard [Ref 2].  
The author mentions N.I.Akhiyezer, M.G.Kreyn, and S.M.Nikol'skiy.  
There are 10 references, 6 of which are Soviet, 2 French, 1 German,  
and 1 Polish.

ASSOCIATION: Lutskiy gosudarstvennyy pedagogicheskiy institut imeni Lesi  
Ukrainki (Lutsk State Pedagogical Institute imeni Lesya Ukrainka)

PRESENTED: June 30, 1959, by I.M.Vinogradov, Academician

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DZYADIK, V.K. Dr. Phys-Math Sci - (diss) "Investigation of the  
approximative and geometric characteristics of certain classes  
of functions," Lutsk-Moscow, 1960, 32 pp (Lutsk State Pedagogical  
Institute im Lesa Ukrainka) (KL, 34-60, 119)

16.3000

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SOV/42-15-1-10/27

AUTHOR: Dzyadyk, V. K.

TITLE: Geometric Definition of Analytic Functions

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol 15,  
Nr 1, pp 191-194 (USSR)

ABSTRACT: The definition is a consequence of the theorem:  
Let there be given in some domain  $G$ , two real  
valued functions  $u(x,y)$  and  $v(x,y)$  which are  
continuous with their first partial derivatives,  
 $U_x, U_y, V_x, V_y$ . Then in order that the function

$$f(x+iy) = u(x,y) + iv(x,y) \quad (1)$$

be analytic or be the conjugate of an analytic  
function in the domain  $G$ , it is necessary and  
sufficient that all three surfaces

$$z = u(x,y), \quad z = v(x,y) \quad \text{и} \quad z = \sqrt{u^2(x,y) + v^2(x,y)} \quad (2)$$

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over some arbitrary domain,  $g \subset G$  have the same areas. The definition is then as follows: Let there be given in some domain  $G$ , two real-valued functions  $u(x,y)$  and  $v(x,y)$  which are continuous with their first partial derivatives,  $u_x, u_y, v_x, v_y$ .

Then the function

$$f(x+iy) = u(x,y) + iv(x,y)$$

$\subset$  is said to be analytic in the domain  $g \subset G$  if, (1) all three surfaces in Eq. (2) over some arbitrary domain  $g \subset G$  have the same area and in the case when in  $G$  there exist points for which  $(u'_x)^2 + (u'_y)^2 > 0$  then at least at one such point the Cauchy-Riemann equations are satisfied:

$$u_x = v_y; u_y = -v_x$$

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The following are consequences of the above: (1)

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$$|f'(x + iy)| = |\text{grad}| u^2(x, y) + v^2(x, y)|. \quad (10)$$

(2) From the fact that for harmonic and conjugate functions  $u(x, y)$  and  $v(x, y)$  the following holds

$$u_{xx}u_{yy} - (u_{xy})^2 = -(v_{xx})^2 - (u_{xy})^2 = v_{xx} \cdot v_{yy} - (v_{xy})^2,$$

it is seen that the surfaces  $z = u(x, y)$ ,  $z = v(x, y)$  have at all points the same Gaussian curvature and that the curvature is always negative or zero. At the same time it is possible to find a series of surfaces  $z = |u^2(x, y) + v^2(x, y)|$  with positive Gaussian curvature. This implies that there exist surfaces which, over some domain, have the same area but at the same time do not superimpose on each other. Examples of such surfaces are

$$z = \text{Re} \{(x + iy)^2\} = x^2 - y^2 \text{ and } z = |x + iy|^2 = x^2 + y^2.$$

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(3) There exist surfaces which do not superimpose on each other but at the same time, (1) at each point have the same Gaussian curvature; (2) over arbitrary domain have same areas. Examples of such surfaces are

$$z = \ln \sqrt{x^2 + y^2} \text{ or } z = \arg(x + iy).$$

SUBMITTED: July 28, 1958

Card 4/4

DZYADYK, V.K.

One property of almost periodic polynomials. Ukr.mat.zhur. 13 no.4:96-98 '61.

(MIRA 15:7)

(Polynomials)

22853

S/038/61/025/002/001/002  
C111/C222

16.4110 16.4200

AUTHOR: Dayadyk, V.K.

TITLE: On the question of the best approximation with the aid of trigonometric polynomials of absolutely monotone and some other functions in the metric L

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya matematicheskaya, v.25, no.2, 1961, 173-238

TEXT: The paragraphs 1,2,3 contain a great number of auxiliary results on the displacement of the zeros of a trigonometric polynomial by differentiation and on the maximal number of roots of certain transcendental equations as well as a trigonometric interpolation formula for the case of knot points

$$x_1 = \frac{\pi}{n+1}, x_2 = \frac{2\pi}{n+1}, \dots, x_k = \frac{k\pi}{n+1}, \dots, x_{2n+1} = \frac{2n+1}{n+1} \pi. \quad (3.1)$$

In § 4 the author considers the interpolation of the function

$$\varphi(x) = \sum_{k=0}^{\infty} a_k x^k \quad (a_k \geq 0) \text{ on } [0, 2\pi).$$

Theorem 4.1: Let the function  $\varphi(x)$  be defined by the series  
Contd 1/0



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$$\varphi(x) = \sum_{j=0}^{\infty} a_j x^j, \quad x \in [0, 2\pi), \quad (4.10)$$

where  $a_j$  are arbitrary non-negative numbers, where  $\overline{\lim}_{j \rightarrow \infty} \sqrt[j]{a_j} < \frac{1}{2\pi}$ . Let  $T_n(x)$  be a trigonometric polynomial of at most  $n$ -th order ( $n$  -- natural number) which interpolates  $\varphi(x)$  in the points

$$t_k = \frac{k\pi}{n+1}, \quad k=1, 2, \dots, 2n+1. \quad (4.11)$$

Then:  $T_n(x)$  interpolates  $\varphi(x)$  only in the points  $t_k$ , where the difference  $\varphi(x) - T_n(x)$  changes its sign in these points so that

$$\text{sign}[\varphi(x) - T_n(x)] \equiv -\text{sign} \sin(n+1)x, \quad x \in [0, 2\pi). \quad (4.12)$$

The proof of the theorem is based on 6 partially very long lemmas which are difficultly surveyable with respect to their consequence.

In § 5 the author proves with the aid of the results of § 2 and § 4:  
Theorem 5.1: Let

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$$\varphi(x) = \sum_{j=0}^{\infty} a_j x^j, \quad x \in [0, 2\pi]. \quad (5.1)$$

be a function summable on  $[0, 2\pi]$ , where  $a_j$  are arbitrary non-negative numbers, and the radius of convergence of  $\sum a_j x^j$  is greater than or equal to  $2\pi$ ; or let  $\varphi(x)$  be an analytic and summable function on  $(0, 2\pi)$  with the form

$$\varphi(x) = \int_{2n}^{\infty} x^s d\zeta(s), \quad (5.1')$$

where  $\zeta(s)$  is a function non-decreasing on  $[2n, \infty)$ . Let  $T_n^*(x)$  be a trigonometric polynomial of at most  $n$ -th order which interpolates  $\varphi(x)$  in the points  $x_k = \frac{k\pi}{n+1}$  ( $k=1, 2, \dots, 2n+1$ ). Then among all polynomials  $T_n(x)$  of at most  $n$ -th order,  $T_n^*(x)$  is the polynomial of the best approximation for  $\varphi(x)$  in the metric  $L$ , where for  $\varphi(x)$  of the form (5.1) it holds.

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$$\begin{aligned} E_n(\varphi)_L &= \inf_{T_n} \int_0^{2\pi} |\varphi(x) - T_n(x)| dx = \int_0^{2\pi} |\varphi(x) - T_n^*(x)| dx = \\ &= - \int_0^{2\pi} \varphi(x) \operatorname{sign} \sin(n+1)x dx = \\ &= \sum_{j=1}^{\infty} \frac{a_j}{j+1} \left(\frac{\pi}{n+1}\right)^{j+1} \left[ (2n+2)^{j+1} - 2 \sum_{k=1}^{2n+1} (-1)^{k-1} k^{j+1} \right], \end{aligned} \quad (5.2)$$

and for  $\varphi(x)$  of the form (5.1') it holds

$$\begin{aligned} E_n(\varphi)_L &= \inf_{T_n} \int_0^{2\pi} |\varphi(x) - T_n(x)| dx = \int_0^{2\pi} |\varphi(x) - T_n^*(x)| dx = \\ &= - \int_0^{2\pi} \varphi(x) \operatorname{sign} \sin(n+1)x dx = \\ &= \int_{2\pi}^{\infty} \left(\frac{\pi}{n+1}\right)^{s+1} \left[ (2n+2)^{s+1} - 2 \sum_{k=1}^{2n+1} (-1)^{k-1} k^{s+1} \right] \frac{d\beta(s)}{s+1}, \end{aligned} \quad (5.2')$$

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Theorem 5.2: Let  $\varphi(x)$  on  $(0, 2\pi)$  be a continuous summable function having finite or infinite limit values  $\varphi(0+0)$  and  $\varphi(2\pi-0)$  at the ends of  $(0, 2\pi)$  and having the property that every equation  $\varphi(x) - T_n(x) = 0$ , where  $T_n(x)$  is a trigonometric polynomial of at most  $n$ -th order, in the interval  $(0, 2\pi)$  has at most  $2n+2$  roots (with consideration of multiplicities). Let

$$\psi(\xi) = \varphi(x_{2n+1} + \xi) - \varphi(x_{2n} + \xi) + \dots - \varphi(x_2 + \xi) + \varphi(x_1 + \xi), \quad (5.3)$$

where  $x_k = \frac{k\pi}{n+1}$ ,  $k=1, 2, \dots, 2n+1$ ,  $\xi \in (-\frac{\pi}{n+1}, \frac{\pi}{n+1})$ . Then it holds:

1) If

$$\psi(0) < \min\{\varphi(0+0), \varphi(2\pi-0)\} \text{ or } \psi(0) > \max\{\varphi(0+0), \varphi(2\pi-0)\}, \quad (5.4)$$

then there exists a unique point  $\xi_0 \in (0, x_1) = (0, \frac{\pi}{n+1})$  so that it holds

$$\begin{aligned} &\varphi(x_{2n+1} + \xi_0) - \varphi(x_{2n} + \xi_0) + \dots \\ &\dots - \varphi(x_2 + \xi_0) + \varphi(x_1 + \xi_0) - \varphi(\xi_0) = \psi(\xi_0) - \varphi(\xi_0) = 0. \end{aligned} \quad (5.5)$$

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2) Among the trigonometric polynomials  $T_n$  of at most  $n$ -th order that polynomial  $T_n^*$  is the polynomial of the best approximation of the function  $\varphi(x)$  in the metric  $L$  which interpolates  $\varphi(x)$  in the points

$$\xi_0, \xi_0+x_1, \xi_0+x_2, \dots, \xi_0+x_{2n},$$

where  $\xi_0$  is a root of (5.5) if (5.4) is satisfied and  $\xi_0 = \frac{\pi}{n+1}$  if it holds

$$\min\{\varphi(0+0), \varphi(2\pi-0)\} \leq \varphi(0) \leq \max\{\varphi(0+0), \varphi(2\pi-0)\}; \quad (5.4')$$

here it holds

$$E_n(\varphi)_L = \int_0^{2\pi} |\varphi(x) - T_n^*(x)| dx = \left| \int_0^{2\pi} \varphi(x) \operatorname{sign} \sin[(n+1)(x - \xi_0)] dx \right|. \quad (5.6)$$

3) If (5.4) is satisfied and

$$\varphi(x) \sim \frac{a_0}{2} + \sum_{k=1}^{\infty} (a_k \cos kx + b_k \sin kx),$$

then  $\xi_0$  is a root of

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$$\sum_{j=0}^{\infty} \{a_{(n+1)(2j+1)} \cos[(n+1)(2j+1)\xi] + b_{(n+1)(2j+1)} \sin[(n+1)(2j+1)\xi]\} = 0. \quad (5.7)$$

Further analogous assertions are given on functions  $\varphi(x)$  belonging to certain more special classes...

In §6  $\mathcal{M}_H$  and  $\mathcal{M}_L$  denote classes of periodic essentially bounded measurable or summable functions  $\alpha(x)$  which satisfy

$$\text{ess sup } |\alpha(x)| \leq 1 \quad \text{or} \quad \int_0^{2\pi} |\alpha(x)| dx \leq 1. \quad (5.12) \quad X$$

Let furthermore  $K(x)$  be summable on  $[0, 2\pi]$ . Then the class of functions

$$f(x) = \frac{1}{2\pi} \int_0^{2\pi} K(t) \alpha(x-t) dt \quad (5.13)$$

is denoted by  $K_C$  for  $\alpha(x) \in \mathcal{M}_H$  and by  $K_L$  for  $\alpha(x) \in \mathcal{M}_L$ . If besides  $\alpha(x)$  satisfies the condition

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$$\int_0^{2\pi} \alpha(x) \frac{\cos kx}{\sin kx} dx = 0, \quad k=0,1,2,\dots,m-1 \quad (5.14)$$

then there appear the subclasses  $K_{C_m}, K_{L_m}$ . The magnitudes  $E_n [K_C] =$

$= \sup_{f \in K_C} E_n(f)_C, \quad E_n [K_L] = \sup_{f \in K_L} E_n(f)_L$  etc. are called the best

approximations in the classes  $K_C, K_L$  etc. On the best approximations in

these classes the author proves: If  $K(x)$  is absolutely monotone and summable on  $[0, 2\pi)$  then for the functions (5.13) and every  $m=0,1,2,\dots,n$  it holds:

$$E_n [K_{C_m}] = \sup_{f \in K_{C_{n+1}}} \|f\|_C = E_n (K)_L = \int_0^{2\pi} |K(x) - T_n^*(x)| dx, \quad (5.15)$$

$$E_n [K_{L_m}] = \sup_{f \in K_{L_{n+1}}} \|f\|_L = E_n (K)_C = \int_0^{2\pi} |K(x) - T_n^*(x)| dx, \quad (5.15')$$

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where the polynomial  $T_n^*(x) = T_n^*(K; x)$  can be determined according to the theorems of § 5.

Altogether the paper contains 26 lemmas and theorems having very long formulations and very extensive proofs.

The author mentions S.M.Nikol'skiy, N.I.Akhiyezer, M.G.Kreyn and A.A.Markov. There are 5 Soviet-bloc and 3 non-Soviet-bloc references.

SUBMITTED: August 11, 1959

Card 9/9



DZYADYK, V.K.

On the approximation of continuous functions in closed regions containing angles, and S.M.Nikol'skii's problem. Part 1. Izv. AN SSR.Ser.mat. 26 no.6:797-824 N-D '62. (MIRA 15:12)

1. Institut matematiki AN UkrSSR.  
(Functions, Continuous)

DZYADYK, V.K. (Kiyev)

Approximation of nonperiodic functions by polynomials on a system  
of segments. Ukr. mat. zhur. 15 no.1:88-94 '63. (MIRA 16:3)  
(Functions, Continuous) (Polynomials)

DZYADYK, V.K. (Kiyev)

Converse theorems in the theory of approximation of functions in  
complex regions. Ukr. mat. zhur. 15 no.4:365-375 '63.  
(MIRA 17:4)

DZYADYK, V.K.

Theory of approximation of analytic functions, continuous  
in closed regions, and S.M. Nikol'skii's problem. Izv. AN  
SSSR. Ser. mat. 27 no.5:1135-1164 S-0 '63. (MIRA 16:11)

DZYADYK, V.K.

Theorems on the transformation and approximation of analytic functions. Dokl. AN SSSR 151 no.2:269-272 J1 '63. (MIRA 16:7)

1. Institut matematiki AN UkrSSR. Predstavleno akademikom S.L.Sobolevym.

(Functions, Analytic)

DZYADYK, V.K. (Kiyev); GALAN, D.M. (Kiyev)

Approximation of analytic functions in regions with a smooth boundary. Ukr. mat. zhur. 17 no.1:26-38 '65.

(MIRA 18:3)

LOVANYI, V.F. (Hungary)

Simple example of a continuous periodic function not expandable into  
a Fourier series. Ukr. mat. zhur. 17 no.4:103-104 '65.  
(MIRA 18:8)

22442 ZID R.A.  
CA

The true oxygen consumption of sewage and a method for its determination. A. M. Dryagin. *Trudy Khim. Soud. Tekh.* 1938, No. 8, 117-25; *Khim. Referat Zhur.* 2, No. 3, 80 (1939).-- The different methods of Kulsh, of Schuler and of Tyurin for the detn. of the O consumption of sewage and of org. substances were analyzed. The new method is: Put into a flask equipped with a reflux condenser a 5% soln. of  $KIO_4$ , add some concd.  $H_2SO_4$  soln. and 5 cc. of the liquid under investigation and 2-3 beads or a capillary. The concn. of  $H_2SO_4$  should be 65-80% by vol. Heat gradually to  $200^\circ$ . The oxidation of the org. substance begins with an evolution of vapors and can be considered completed when the evolution ceases. Cool the flask, add 10-20 cc. of  $H_2O$ , transfer the contents both the capil. and the control flask into larger flasks, dil. with water to 100-150 cc., add 1 cc. of a 10% soln. of  $KI$ , stopper, place for 10-15 min. in a dark place and titrate with a 0.1 N  $Na_2S_2O_3$  soln. By this method 14 org. prisms were investigated. The error did not exceed 2.5%. By far the most org. substances were analyzed to 100% in limits of expit. errors. The method is superior not only to the methods of Kulsh and of Schuler for the detn. of the O consumption but also to the method employing  $K_2Cr_2O_7$ .  
W. R. Heun



DZYADZIO, H.M.

CA

Application of the method for determining the true oxygen consumption to waste water from leather tanneries. A. M. Dzyadzio. *Vodostokhishenie Sani. Tekh.* 1939, No. 11-12, 84-7. *Khim. Referat. Zhur.* 1940, No. 8, 101. In spite of the high content of org. substances in waste water from tanneries, the iodate method developed for sewage (cf. C. A. 34, 1110<sup>1</sup>) can be applied to detn. of O<sub>2</sub> consumption. The O consumption of waste waters of the 2nd Odessa Tannery is 3 times as high as that obtained according to Kubel and Schultz and 1.5 times as high as that according to Tyurin. W. R. Henn

DZYADZIO, A. M.; ZOLOTAREV, S. M.

Flour Mills

Designing mills. G. M. Leviatin. Reviewed by A. M. Dzyadzio, S. M. Zolotarev. Sov. kniga No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

*DZYADZIO, A.M.*

DZYADZIO, A.M., dotsent; PLATONOV, P.N., dotsent; KOFMAN, S.Ye.,  
inshener; SOKOLOV, A.Ya., professor, doktor tekhnicheskikh nauk,  
redaktor; KHOMEL'NITSKAYA, A.Z., redaktor; GOTLIB, E.M., tekhnicheskii redaktor.

[Pneumatic tube transportation in flour mills] Pnevmaticheskii  
transport na sel'skokhoziaistvennykh mel'nitsakh. Pod red. A.IA.  
Sokolova. Moskva, Pishchepromisdat, 1954. 69 p. (MLRA 8:1)  
(Pneumatic-tube transportation) (Flour mills)

*DEYADZIO, A.*

DEYADZIO, A., kandidat tekhnicheskikh nauk.

Determining pressure losses in transferring grain in vertical tubes. Muk.-elev.prom. 21 no.2:12-15 F '55. (MLRA 8:3)

1. Odesskiy tekhnologicheskii institut im. I.V.Stalina.  
(Grain handling machinery) (Pneumatic-tube transportation)

DZYADZIO, A., kandidat tekhnicheskikh nauk.

Determining losses in pressure during the movement of milling products in vertical pipes. Muk.-elev. prom. 22 no.8:18-22 Ag '56. (MIRA 10:8)

1. Odesskiy tekhnologicheskii institut.  
(Grain milling) (Pneumatic tube transportation)

DZYADZIO, A. N.

BARER, G.O.; BELETSKIY, V.Ya.; VORONKOV, P.I.; DEMIDOV, P.G.; DZYADZIO, A.M.;  
DOMBROVSKIY, G.D.; ZOLOTAREV, S.M.; KRAVCHENKO, I.K.; PLATONOV, P.N.;  
PANCHENKO, A.V.; UGOLIK, N.F.

V. I. A. Girshson. Muk.-elev. prom. 23 no.4:23 Ap '57. (MLRA 10:5)  
(Girshson, Vasilii Iakovlevich, 1880-1957)

DZYADZIO, A.M.; KEMMER, A.S.

~~SECRET~~  
Determining the soaring speed of particles. Izv. vys.ucheb. zav.;  
pishch. tekhn. no. 2:110-114 '58. (MIRA 11:10)

1. Odesskiy tekhnologicheskiy institut imeni I.V.Stalina, Kafedra  
promyshlennoy ventilyatsii, gidravliki i nasosov.  
(Pneumatic-tube transportation--Fluid dynamics)

DZYADZIO, A.M.

Hydrodynamics of pneumatic conveying. Izv.vys.ucheb.zav.;  
pishch.tekh. no.4:98-111 '59. (MIRA 13:2)

1. Odesskiy tekhnologicheskii institut imeni I.V.Stalina.  
Kafedra promyshlennoy ventilyatsii, gidravliki i nasosov.  
(Pneumatic-tube transportation)



DZYADZIO, A.M.; KEMMER, A.S.

Pneumatic transportation of cereal products in horizontal tubes.  
Izv. vys. ucheb. zav.; pishch. tekhn. no. 3:79-85 '60. (MIRA 14:8)

1. Odesskiy tekhnologicheskii institut im. I.V. Stalina, Kafedra  
promyshlennoy ventilyatsii, gidravliki i nasosov.  
(Cereal products) (Pneumatic-tube transportation)

DZYADZIO, A., inzh.; KOSTYUK, G., inzh.; TSYBUL'SKIY, G., inzh.

High-pressure ventilators with increased efficiency co-efficient. Muk.-elev. prom. 26 no. 11:27-29.N '60. (MIRA 13:17)

1. Odesskiy tekhnologicheskiy institut im.I.V.Stalina.  
(Flour mills--Heating and ventilation)

DZYADZIO, Aleksandr Mikhaylovich; KEYZER, V.A., red.; STRAKHOVA, G.V.,  
red.; SAVEL'YEVA, Z.A., tekhn. red.

[Pneumatic conveying in grain-handling enterprises] Pnevmaticheskii  
transport na zernopererabatyvaiushchikh predpriiatiakh. Moskva,  
Zagotizdat, 1961. 327 p. (MIRA 15:7)  
(Pneumatic conveying) (Grain handling)

KEMMER, A.S.; DZYADZIO, A.M.

Nomographs for the design of the tube systems for horizontal  
pneumatic-tube transportation. Izv.vys.ucheb.zav.; pishch.tekh.  
no.3:145-149 '62. (MIRA 15:7)

1. Odesskiy tekhnologicheskii institut imeni Lomonosova, kafedra  
promyshlennoy ventilyatsii, gidravliki i nasosov.  
(Pneumatic conveying)

KEMMER, A.S.; <DZYADZIO, A.M.

Analyzing the electric power consumption of horizontal pneumatic conveying systems. Izv.vys.ucheb.zav.; pishch.tekh. no.4:106-109 '62. (MIRA 15:11)

1. Odesskiy tekhnologicheskii institut im. M.V.Lomonosova, kafedra promyshlennoy ventilyatsii, gidravliki i nasosov. (Pneumatic conveying) (Grain—Transportation)

KEMMER, A. S.; DZYADZIO, A. M.

Calculating the velocity rate of soaring under free and  
constricted conditions. Izv. vys. ucheb. zav.; pishch. tekhn.  
no.5:113-119 '62. (MIRA 15:10)

1. Odesskiy tekhnologicheskii institut imeni Lomonosova,  
kafedra promyshlennoy ventilatsii, gidravliki i nasosov.

(Pneumatic conveying)  
(Dynamics of particles)

DZYGALO, A. I.

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Landograd. Institut Inzhenerov Shetsoodopornogo Transporta  
Aviatsiya, Tekhnicheskaya i Svyaz' (Automation, Telemechanics,  
and Communications) Moscow, Transportnoy, 1960, 230 p.  
(Series: Iste Shornik, vyp. 169) 1,000 copies printed.

General Ed.: V. M. Litov, Professor; Ed.: G. I. Kabanova,  
Engineer; Tech. Ed.: Ye. N. Dobrov.

PURPOSE: This book is intended for technical personnel and  
scientists engaged in the fields of automation, telemechanics,  
and communications.

CONTENT: This collection of articles presents various methods  
of analysis and synthesis of electric circuits. New designs  
are described and ways of improving technical and economic  
indicators of communication instruments investigated. The  
articles contain computations for individual types of commu-  
nication and telemechanical systems. No periodicals are  
mentioned. Some of the articles are accompanied by references.

REYDOL, A. I., Engineer. Possibilities of Substituting  
Relay Communications for Wire Communi-  
cations on Railroads and Selection of Multiplexing Equipment 123  
The author recommends that frequency and time division of  
channels in radio relay communication systems be used  
simultaneously in railroad transport. Included also are  
results of studies of the possibilities of substituting  
radio relay communication for wire communication for various  
railroad transportation services.

SHVETLOBOLO, D. Ya., Candidate of Technical Sciences,  
Inventor. Investigation of the Possibility of Using a Reflex  
Klystron as the Output Stage of a Pulse-Modulation Trans-  
mitter of a Radio Relay System 130  
Having determined the useful power, pulse shape dis-  
tribution, and the stability of radio pulse frequency of  
reflex klystrons, the author concludes that reflex klystrons  
be used as output stages of radio relay communication lines of railroad  
transportation.

DELON, I. I., Candidate of Technical Sciences, Doctor.  
Photoelectric Filter With Kinetic Mechanical Sound Between  
Circuits 135  
The author presents several variants of bridge circuits  
with quartz piezoelectric elements and gives formulas for the  
design of a quartz filter with mechanical bonds. There  
are two references, both Soviet.

GRUBIN, S. L., Candidate of Technical Sciences, Doctor.  
Planning of [Railway] Division Communications 148  
This article describes division communications which  
are defined as telephone conversations between railroad  
employees within the limits of a railway division  
approximately 50 to 100 kilometers long. There are 3  
references, all Soviet.

BOYKO, I. P., Candidate of Technical Sciences, Doctor. Ways  
of Improving the Construction of Telegraph Communi-  
cation Systems 156  
The article describes the operation of telegraph communi-  
cation systems and suggests methods of  
improving their construction. There are 20 references.

DYKIN, D. V., Engineer. Sharp Oscillations Using Ferrites  
for the Cathode-Ray Tube Tracer 162  
The author describes the cathode-ray tube tracer as  
an instrument used for the investigation of frequency  
characteristics of relays. The author describes the  
design of both the high- and low-frequency cathode-ray  
tube tracer and explains the selection of its variable  
inductance core for which ferrite is the most widely  
used material. There is 10 references.

DZYAK, V.I., Doc Med Sci -- (diss) "Determination of the activity  
of the rheumatic process in <sup>patients with</sup> ~~cardiac defects~~ <sup>patients</sup>." Kiev, 1959.  
27 pp (Kiev Order of Labor Red Banner Med Inst in Acad A.A. Bogomolets)  
250 copies. List of author's works: pp 26-27 (12 titles)  
(EL, 38-59, 119)

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*DZYAK, V. N.*

DZYAK, V. N.

"Changes in the Protein Components of Blood Serum in the Dynamics of Various Forms of Rheumatism." Cand Med Sci, Dnepropetrovsk State Medical Inst, Dnepropetrovsk, 1954. (RZhKhin, No 17, Sep 54)

30: Sum 432, 29 Mar 55

DZYAK, V.N., kandidat meditsinskikh nauk

Formol reaction and viscosity of formalize blood serum in  
rheumatism and subacute septic endocarditis. Vrach. delo no.1:89-91  
Ja '57 (MLRA 10:4)

1. Fakul'tetskaya terapevticheskaya klinika (zav.-prof. B.A.  
Zalkind Dnepropetrovskogo meditsinskogo instituta.  
(RHEUMATIC FEVER) (ENDOCARDITIS) (SERUM)

DZYAK, V.N., dotsent; GORBENKO, V.N., dotsent

Adrenocorticotrophic hormone for treating some diseases of the  
internal organs. Vrach.delo no.8:875 Ag '57. (MIRA 10:8)

1. Kafedra fakul'tetskoy terapii (zav. - prof. B.A.Zalkind) i kafedra  
gospital'noy terapii (zav. - prof. I.S.Slutskiy [deceased]) Dnepro-  
petrovskogo meditsinskogo instituta  
(VISCERA--DISEASES) (ACTH)

DZYAK, V.N., kandidat meditsinskikh nauk (Dnepropetrovsk); VINOGRADOV,  
L.A. (Dnepropetrovsk)

A rare case of nasal and gastrointestinal myiasis. Klin. med.  
35 no.1:109-112 Ja '57 (MLRA 10:4)

1. Iz kafedry fakul'tetskoy terapii (zav.-prof. B.A. Zalkind) i  
kafedry biologii i parazitologii (zav.-dotsent V.L. Gerbil'skiy)  
Dnepropetrovskogo meditsinskogo instituta.

(MYIASIS, case report

Calliphora, of nose, & stomach & intestines)

(NASAL CAVITY, dis.

myiasis of Calliphora)

(GASTROINTESTINAL DISEASES

same)

DZYAK, Viktor Nikolayevich, for Doctor ~~of~~ Medical Sciences on the basis  
of ~~the~~ dissertation defended 11 June 1959 in the Council of ~~the~~ Kiev  
Order of Labor Red Banner Medical Institute im. Acad. Bogomolets, en-  
titled: "Determination of <sup>Activity</sup> ~~the Acuteness~~ of the Rheumatic Process in  
Patients with <sup>Heart Defects.</sup> ~~Diseases of the Heart~~". (EMVISO USSR, 2-61, 19)

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DZYAK, V.N., dotsent

Determination of the activity of the rheumatic fever process in patients with heart defects. Vrach.delo no.6:587-591 Ja '59.

(MIRA 12:12)

1. Dnepropetrovskiy meditsinskiy institut i Ukrainsky nauchno-issledovatel'skiy institut klinicheskoy meditsiny im. akademika N.D. Strazhesko.

(RHEUMATIC FEVER)

(HEART--DISEASES)

DZYAK, V.N., dotsent; BEZBOROD'KO, B.N., dotsent

So-called ambulatory forms of rheumatic fever in adults. Vrach.delo  
no.11:28-31 N '60. (MIRA 13:11)

1. Kafedra gospiatal'noy terapii II (zav. - dotsent V.N.Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.  
(RHEUMATIC FEVER)

DZYAK, V.N., dotsent

Diagnostic and prognostic significance of the disproteinemic syndrome in rheumatic and infectious nonspecific polyarthrititis (as particular manifestations of collagen diseases). Vrach. delo no.9:121-122  
S '60. (MIRA 13:9)

1. Kafedra fakul'tatskoy terapii (zav. - prof. B.A.Zalkind) Dnepro-  
petrovskogo meditsinskogo instituta.  
(ARTHRITIS, RHEUMATOID) (BLOOD PROTEINS)



DZYAK, V.N., dotsent; KUSHNEREVA, A.G., kand.med.nauk; BASHMAKOVA, I.N.

Clinical significance of some biochemical indexes in hypertension.  
Vrach. delo no.4:140 Ap '61. (MIRA 14:6)

1. Kafedra fakul'tetskoy terapii (zav. - prof. B.A.Zalkind)  
Dnepropetrovskogo meditsinskogo instituta.  
(HYPERTENSION)

DZYAK, V.N., dotsent; BOGATSKIY, Ye.F., kand.med.nauk

Electrophoretic study of the protein composition of the blood serum in various clinical forms of chronic tonsillitis. Vest. otorin. no.6:31-35 '61. (MIRA 15:1)

1. Iz kafedry 2-y gosptal'noy terapii (zav. - dotsen V.N. Dzyak) i kafedry bolezney ukha, gorla i nosa (zav. - zaslushennyi deyatel' nauki UkrSSR prof. L.A. Lukovskiy) meditsinskogo instituta, Dnepropetrovsk.

(TONSILS--DISEASES) (BLOOD PROTEINS) (ELECTROPHORESIS)

DZYAK, V.N., prof.

Protein content of blood serum and colloid precipitate reactions  
in subacute septic endocarditis. Vrach. delo no.12:69-75 D '61.  
(MIRA 15:1)

1. Dnepropetrovskiy meditsinskiy institut.  
(BLOOD PROTEINS) (ENDOCARDITIS)

DZYAK, V.N., prcf.; VIL'KOVSKIY, L.V.

Pharmacodynamics of the Soviet preparation, nitrosorbid,  
and its use in chronic coronary insufficiency. Vrach. delo  
no.5:23-30 My '62. (MIRA 15:6)

1. Kafedra gosptal'noy terapii II (zav. - prof. V.N. Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.  
(CORONARY HEART DISEASES)  
(CARDIOVASCULAR AGENTS)

DZYAK, V.N., prof.

Clinical evaluation of the monocytic cup phenomenon (V.A.Valdman's test) in rheumatism [with summary in English]. Vrach.delo no.9: 27-30 S '62. (MIRA 15:8)

1. Kafedra gospiatal'noy terapii II (zav. - prof. V.N.Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.  
(RHEUMATIC FEVER) (MEDICAL TESTS)

DZYAK, V.N., prof. ; MITROKHINA, L.A.

Study of the interparoxysmal period of rheumatic fever in a  
dispensary. Vop. revm. 2 no.2:63-68 Ap-Je'62 (MIRA 17:3)

1. Iz kafedry 2-y gosptal'noy terapii ( zav. - prof. V.N.  
Dzyak) Dnepropetrovskogo meditsinskogo instituta.

DZYAK, V.N., prof.

Clinical evaluation of the use of a new Soviet preparation,  
erinit, in chronic coronary insufficiency and the signs of  
stenocardia. Terap.arkh. 34 no.2:38-42 '62. (MIRA 15:3)

1. Iz 2-y kafedry gosital'noy terapii (zav. - prof. V.N. Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.  
(VASODILATORS) (ANGINA PECTORIS) (CORONARY HEART DISEASE)

DZYAK, V.N., prof. (Dnepropetrovsk)

More on the pharmacodynamics of nitroglycerin. Vrach. delo  
no.6:23-28 Je'63. (MIRA 16:9)  
(NITROGLYCERIN—THERAPEUTIC USE) (CORONARY VESSELS)  
(BLOOD—CIRCULATION, DISORDERS OF)



DZYAK, V.N., prof.; DROBACHEVSKAYA, A.A.; GRANOVSKAYA, E.V.

Some types of therapy in chronic coronary insufficiency.  
Vrach. delo no.7:26-30 J1'63. (MIRA 16:10)

1. Kafedra gospiatal'noy terapii II (zav. - prof. V.N.Dzyak)  
Dnepropetrovskogo meditsinskogo instituta i dorozhnaya  
bol'nitsa.  
(CORONARY HEART DISEASE)

DZYAK, V.N.; FURS, I.T.; BEZBOROD'KO, B.N.

Comparative evaluation of the effect of some preparations from the group of organic nitrates on the cardiovascular system under experimental conditions. Farm. i toks. 26 no.1:47-52 Ja-F '63. (MIRA 17:7)

1. Kafedra gospiatal'noy terapii No.2 (zav. - prof. V.N. Dzyak) Dnepropetrovskogo meditsinskogo instituta.

DZYAK, V.N., prof.; FURS, I.T., dotsent

Diagnosis of chronic cor pulmonale combined with atherosclerotic  
cardiosclerosis. Vrach. delo no.2:30-35 F'64 (MIRA 17:4)

1. Kafedra gospiatal'noy terapii II (zav. - prof. V.N. Dzyak)  
Dnepropetrovskogo meditsinskogo instituta.

MAZUR, O.E., inzh.; YASINSKIY, S.I. [IAsyns'kyi, S.I.], mekhanik;  
DZYAKAN, I.P., brigadir traktornoy brigady; DONDRATYUK, D.G.  
[Kondratiuk, D.H.], mekhanik; STASYUK, G.V. [Stasiuk, H.V.],  
mekhanik; KAPITANOY, P.S.

Our discussions. Mekh. sil'. hosp. 12 no.9:22-23 8 '61.  
(MIRA 14:11)  
(Agricultural machinery—Maintenance and repair)

DZYAKHIVICH, V.

YEMEL'YANOV, Yu.; DZYAKHIVICH, V.; IGOSHIN, M.G., red.; BLAZHENKOVA, G.I.,  
tekhn.red.

[Cutters with automobile motors] Kater s avtomobil'nyy motorom.  
Moskva, Izd-vo DOSAAF, 1957. 136 p. (MIRA 11:2)  
(Motorboats)

DZYAKEVICH, V. S., inzh.; ALAD'IN, V. N., inzh.

Design of a pleasure launch, Sudostroenie 28 no.10:35 0 '62,  
(MIRA 16:1)

(Launches)

DZYAKEVICH, V.S., inzh.; ALAD'IN, V.N., inzh.

Service transportation launch. Sudostroenie 31 no.1:45-47 Ja '65.  
(MIRA 18:3)

DZYALOSHINSKIY, I.Ye.

Theory of the transition state of superconductors. Dokl. AN  
SSSR 105 no.2:244-247 '55. (MLRA 9:3)

1. Institut fizicheskikh problem imeni S.I. Vavilova Akademii  
nauk SSSR. Predstavleno akademikom L.D. Landau.  
(Electric conductivity)



Dzyaloshinskiy, I. Ye

USSR/ Physical Chemistry - Liquids and Amorphous Bodies. Gases. B-6

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7373

Author : Dzyaloshinskiy, I. Ye.

Title : The Effect of Retardation on the Interaction of  
Neutral Atoms

Orig Pub : Zh. eksperim. i teoreticheskoy fiziki, 1956, Vol 30,  
No 6, 1152-1154

Abstract : A previously published calculation of the effect of retardation on the interaction of two neutral atoms (H. Casimir and D. Polder, Phys. Rev., 1948, 73, 360) gave a  $R^{-7}$  dependence of the energy on the distance  $R$ . The divergences which were found were excluded somewhat incorrectly. The author has applied the Feinman invariant method to the calculation of the effect of retardation on the interaction of two hydrogen atoms in the ground state and has rigorously derived a dependence which agrees with that obtained by Casimir and Polder.

Card 1/1

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~~D~~ = yaloshinskiy, I. Ye

Category : USSR/Atomic and Molecular Physics - Low Temperature  
Physics

D-5

Abs Jour : Ref Zhur - Fizika, No 31 1957, No 6356

Author : Dzyaloshinskiy, I. Ye.

Inst : Institute of Physics Problems, Academy of Sciences, USSR

Title : On the Instability of the Phase Boundaries Between Normal  
and Superconducting states.

Orig Pub : Zh. eksperiment, i teoret. fiziki, 1956, 30, No 6, 1154-1155

Abstract : The instability of the phase boundary between the  $m$  and  $g$  phase relative to the periodic disturbances of the form of the boundary along the surface, found in Beck's paper (Referat Zhur Fizika, 1956, 13122), is explained by the fact that the London equations lead to a negative surface energy  $\alpha$  on the phase boundary. Since the deduction concerning the existence of a negative surface tension contradicts experimental data, the author considers the problem of the stability of the phase boundary on the basis of the theory by V.L. Ginzburg and L.D. Landau, which gives the correct sign of  $\alpha$ . Owing to the complexity of the general solution of the equations,

Card : 1/2

Category : USSR/Atomic and Molecular Physics - Low Temperature Physics

D-5

Abs Jour : Ref Zhur -- Fizika, No 3, 1957, No 6356

the author considers only the case when the period of disturbance is much greater than the depth of penetration of the magnetic field into the superconductor. It is shown that in the case the separation boundary is stable, and for the fluctuations in the displacement of the separation boundary one obtains the following expression,

$$(\delta r)^2 = (4 \cdot k T / \Delta H_k^2) \ln (\Delta / \lambda)$$

where  $H_k$  is the critical magnetic field and  $\Delta$  is a constant. For Hg, and  $T \sim 1^\circ K$  (far from the  $\lambda$  point), we get  $\delta r \sim 10^{-7} cm$ .

Card : 2/2

DZYALOSHINSKIY, I. Ye. Cabd Phys-Math Sci -- (diss) " The thermodynamical  
theory of the "weak" ferromagnetism of antiferromagnetics." Mos, 1957.  
(Bibliography at end of text(10 titles))  
10 pp (Acad Sci USSR. Inst of Physical Problems), 120 copies (KL, 44-57, 98)